Middle Gila Watershed

Watershed Description

This watershed encompasses the Gila River drainage area below Coolidge Dam (San Carlos Reservoir) in the east to Painted Rocks Dam in the west. It excludes the Santa Cruz River, the San Pedro River, and the Salt River drainage above Granite Reef Dam. The Salt River drainage area below Granite Reef Dam is included in this watershed (instead of the Salt Watershed) because the canals and diversions at the dam hydrologically disconnect the system from the rest of the lower Salt River drainage.

The Phoenix metropolitan area, located in this 12,250 square mile watershed, consists of more than three million people (2000 census) and continues to be one of the fastest growing areas in the United States. Land ownership in the Middle Gila is approximately: 65% federal land, 25% private land, 4% state land, and 4% tribal land. Within the metropolitan area, irrigated agriculture uses are rapidly being displaced by urbanization. Outside the urbanized area, livestock grazing is the primary land use. Mining (primarily now abandoned) has occurred across this watershed, with more concentration south of Prescott.

Elevations range from 7,400 feet (above sea level) to 1,100 feet at Painted Rocks Reservoir. Most of the watershed is below 5,000 feet in elevation, with Sonoran Desert flora and fauna and warmwater aquatic communities.

Water Resources

This area receives little rainfall (approximately 13 inches a year); therefore, surface water flow is primarily attributed to releases from upstream impoundments, effluent from wastewater treatment plants, and agricultural return flows.

An estimate of surface water resources in the Middle Gila Watershed is provided in the following table. Waters on Tribal lands are not assessed by ADEQ; therefore, those statistics are shown separately.

Estimated Surface Water Resources in the Middle Gila Watershed

	Perennial	Intermittent	Ephemeral
Stream miles	165	1,210	5,460
	Perennial	Non-perennial	
Lake acres	10,320	6,830	

Additional Water Resources Located on Tribal Lands – Not Assessed

	Perennial	Intermittent	Ephemeral
Stream miles On Tribal Lands	0	10	1,105
	Perennial	Non-perennial	
Lake acres On Tribal Lands	240	0	

Ambient monitoring focuses on perennial waters; however, special investigations may identify water quality problems on intermittent and even ephemeral waters. Estimated miles and acres are based on USGS digitized hydrology at 1:100,000 and have been rounded to the nearest 5 miles or 5 acres.

Assessments

The Middle Gila Watershed can be separated into the following drainage areas (subwatersheds):

15050100 Gila – Queen Creek Drainage Area (from San Carlos Reservoir to Salt River)
15060106B Salt – Cave Creek Drainage Area (from Granite Reef Dam to Gila River)
15070101 Gila – Painted Rock Drainage Area (from Salt River to Painted Rock Dam)
15070102 Agua Fria River Drainage Area
15070103 Hassayampa River Drainage Area
15070104 Centennial River Drainage Area

These drainage areas and the surface waters assessed as "attaining" or "impaired" are illustrated on the following watershed map. Methods used to complete these assessments are described in the "Surface Water Assessment Methods and Technical Support" document.

ED_013248_00000483-00001

AGUA FRIA RIVER

Sycamore Creek - Bishop Creek
15070102-023
9.8 Miles

Category 5
Impaired

Add selenium to the 303(d) list.
E. coli (2010)

IMPAIRMENT STATUS

DWS - Inconclusive • FC - Attaining • FBC - Impaired
AGI - Attaining • AGL - Attaining • AWW - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Arsenic	10 ug/L	8/11/2011	15 ug/L	DWS is inconclusive with 1 exceedance in 4 samples.
Dissolved oxygen	6.0 mg/L	8/11/2011	4.9 mg/L	AWW is attaining - low dissolved oxygen due to low flow.
Selenium	2 ug/L	8/11/2011	3.8 ug/L	AWW is impaired with 2 exceedances in 4 samples.
		12/28/2011	4.4 ug/L	
Bottom deposits	< 50% fines	5/23/2012	61%	AWW is inconclusive. Impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.
		10/2/2012	57%	

Monitoring Summary

Sampling period: 8/11/2011 - 5/23/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW USGS GAGE 09512500	MGAFR087.06	100710	ADEQ	Ambient Monitoring
ABOVE BIG BUG CREEK	MGAFR087.35	100711	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(7-8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(7-8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

ED_013248_00000483-00002

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits, arsenic
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
High	Collect more *E. coli* samples under critical conditions. Collect more arsenic samples due to the exceedance. There were two bottom deposits standard violations, but impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.

Impairment Discussion
Add selenium to the 303(d) list. Reach remains impaired for *E. coli* (2010) - no data in the last three years of monitoring. In 2010, the Agua Fria National Monument implemented a winter use for livestock to improve riparian conditions and water quality. Collect more samples that reflect current management conditions.

ED_013248_00000483-00003

AGUA FRIA RIVER

State Route 169 - Yarber Wash
15070102-031B
17.777 Miles

Category 1
Attaining all uses

DWS - Attaining • FC - Attaining • FBC - Attaining
AGI - Attaining • AGL - Attaining • AWW - Attaining

Use Support

No Exceedances

Monitoring Summary

Sampling period: 9/2/2014 - 4/14/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE CHAPARRAL GULCH	MGAFR110.01	106462	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3-4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(3-4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, fluoride, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

ED_013248_00000483-00004

ALVORD PARK LAKE

15060106B-0050
26.9 Acres

Category 5
Impaired

IMPAIRMENT STATUS

Ammonia (2004)

FC - Inconclusive • PBC - Inconclusive • AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	TMDL sampling completed.

Impairment Discussion
Remains impaired for ammonia (2004). TMDL development ongoing.

ED_013248_00000483-00005

ARNETT CREEK

Headwaters - Queen Creek
15050100-1818
11.1 Miles

Category 5
Impaired

IMPAIRMENT STATUS

Copper (2010)

FC - Inconclusive • FBC - Inconclusive • AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Collect samples in support of TMDL development.

Impairment Discussion
Remains impaired for copper (2010). Included as part of Queen Creek TMDL project.

ED_013248_00000483-00006

ARIZONA CANAL (15070102)

HUC boundary 15070102 - Gila River
15070102-202
4.529 Miles

Category 3
Inconclusive

Middle Gila

Use Support

AGI - Inconclusive • AGL - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 12/22/2010 - 12/14/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ACDC TRIB NR HEARN RD AND ACOMA RD, USGS 333658112113200	MGAZCX07DBB	110022	USGS	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(2-5) Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc	(5) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(6) Dissolved oxygen, pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Boron, manganese
Missing Seasonal Distribution	Boron, manganese, copper, lead
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00007

BIG BUG CREEK

Eugene Gulch - Agua Fria River
15070102-034B
23.3 Miles

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AGL - Inconclusive
AGL - Inconclusive • AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Arsenic	30 ug/L (FBC) 80 ug/L (FC)	7/19/2013	69 ug/L	FBC is inconclusive with 4 exceedances in 9 samples (binomial). FC is inconclusive with 2 exceedances in 9 samples (binomial). *Not a FC exceedance
		8/17/2013	86 ug/L*	
		7/15/2014	81 ug/L	
		8/3/2014	89 ug/L	
Copper	500 ug/L (AGL) 1300 ug/L (FBC)	7/19/2013	663 ug/L	AGL is inconclusive with 4 exceedances in 9 samples (binomial). FBC is inconclusive with 2 exceedances in 9 samples (binomial).
		8/17/2013	1150 ug/L	
		7/15/2014	1597 ug/L	
		8/3/2014	1570 ug/L	
Copper (dissolved)	19.7 ug/L acute @ 150 mg/L hardness, 11.2 ug/L chronic @ 130 mg/L hardness	11/22/2013	73 ug/L (max) 14 ug/L (median)	AWW is inconclusive with 1 exceedance in 9 samples.
Lead	100 ug/L (AGL) 15 ug/L (FBC)	7/19/2013	156 ug/L	AGL is inconclusive with 4 exceedances in 9 samples (binomial). FBC is inconclusive with 5 exceedances in 9 samples (binomial). A minimum of 20 samples is needed to determine impairment.
		8/17/2013	254 ug/L	
		11/22/2013	20 ug/L	
		7/15/2014	245 ug/L	
		8/3/2014	239 ug/L	
Lead (dissolved)	2.5 ug/L @ 100 mg/L hardness	1/29/2013	3.8 ug/L	AWW is inconclusive with 1 chronic exceedance.

Monitoring Summary

Sampling period: 1/29/2013 - 8/3/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW PROVIDENCE MINE	MGBGB023.15	109422	ADEQ	TMDL Monitoring

ED_013248_00000483-00008

Metal Samples	Nutrients & Related Samples	Other Samples
(6-10) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-6) Dissolved oxygen, pH, SSC

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper, lead, copper (dissolved), lead (dissolved), arsenic
Missing Core Parameters	Dissolved oxygen, *E. coli*
Missing Seasonal Distribution	Dissolved oxygen, *E. coli*, boron, manganese, mercury
Lab Detection Limits Not Low Enough	Arsenic, copper (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more copper (total and dissolved), lead (total and dissolved) and arsenic samples due to the exceedances. Collect missing core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00009

BUCKEYE CANAL (15070101)

Gila River - South Extension Canal
15070101-209
4.035 Miles

Category 1
Attaining all uses

Use Support

AGI - Attaining • AGL - Attaining

No Exceedances

Monitoring Summary

Sampling period: 5/15/2012 - 5/22/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR AVONDALE, AZ USGS 09514000	MGBKCX28CCB	101494	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-5) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-5) Dissolved oxygen, *E. coli*, pH, total dissolved solids, DDT metabolites, toxaphene

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

ED_013248_00000483-00010

BUCKEYE CANAL (15070103)

HUC boundary 15070103 - Hassayampa River
15070103-090
3.905 Miles

Category 2
Attaining some uses

Draft

Use Support

AGI - Inconclusive • AGL - Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Boron	1000 ug/L	5/30/2012	1300 ug/L	AGI is inconclusive with 6 exceedances in 6 samples (binomial). A minimum of 20 samples is required to determine impairment.
		8/22/2012	1100 ug/L	
		10/25/2012	2600 ug/L	
		2/26/2013	1600 ug/L	
		5/16/2013	2000 ug/L	
		9/16/2013	1700 ug/L	

Monitoring Summary

Sampling period: 5/30/2012 - 9/16/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR TERMINUS	MGBKCX01DCD	109082	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-6) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-6) Dissolved oxygen, *E. coli*, pH, total dissolved solids, DDT metabolites, toxaphene

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Boron
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect more boron samples due to the exceedances.

ED_013248_00000483-00011

BUCKEYE FEEDER CANAL

Unknown - Gila River
15070101-064
4.168 Miles

Category 1
Attaining all uses

Use Support

AGI - Attaining • AGL - Attaining

No Exceedances

Monitoring Summary

Sampling period: 5/14/2012 - 5/22/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT GAGE, BUCKEYE/LENNIX DRAIN	MGB1CX34BAB	103407	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-4) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, total dissolved solids, DDT metabolites, toxaphene

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

ED_013248_00000483-00012

CAVE CREEK

Headwaters - Cave Creek Dam
15060106B-026A
32.909 Miles

Category 3
Inconclusive

Working Draft

FC - Inconclusive • FBC - Inconclusive • AGL - Inconclusive
AWW - Inconclusive

Use Support

No Exceedances

Monitoring Summary

Sampling period: 11/19/2010 - 11/19/2010

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW SEVEN SPRINGS	MGCVE037.68	100527	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, copper, lead, mercury, (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, copper, lead, mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00013

CEDAR CANYON (CEDAR CR)

Headwaters - Turkey Creek
15070102-053
11.552 Miles

Category 3
Inconclusive

Use Support

PBC - Inconclusive • AWE - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper	1300 ug/L	7/10/2011	1410 ug/L	PBC is inconclusive with 1 exceedance in 3 samples (binomial).
Lead	15 ug/L	12/22/2010	42.66 ug/L	PBC is inconclusive with 3 exceedances in 3 samples (binomial).
		7/10/2011	295 ug/L	
		12/1/2011	30.3 ug/L	

Monitoring Summary

Sampling period: 12/22/2010 - 12/1/2011

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NORTH OF MINERAL CREEK MOUTH	MGCED000.25	102522	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-3) Arsenic, boron, copper, lead, manganese	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper, lead
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect more copper and lead samples due to the exceedances. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00014

CHAPARRAL PARK LAKE

15060106B-0300
12.5 Acres

Category 5
Impaired

E. coli and low dissolved oxygen (2004)

FC - Inconclusive • PBC - Impaired • AGI - Inconclusive
AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	TMDL sampling completed.

Impairment Discussion
Remains impaired for dissolved oxygen and *E. coli* (2004). Developing TMDL report.

ED_013248_00000483-00015

CORTEZ PARK LAKE

15060106B-0410
2.0 Acres

Category 5
Impaired

Dissolved oxygen and pH (2004)

IMPAIRMENT STATUS

FC - Inconclusive • PBC - Impaired • AGI - Impaired
AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring after TMDL strategies have been implemented.

Impairment Discussion
Remains impaired for dissolved oxygen and pH (2004). TMDL sampling completed.

ED_013248_00000483-00016

ENCANTO PARK LAKE

15060106B-0510
8 Acres

Category 3
Inconclusive

FC - Inconclusive • PBC - Inconclusive • AGI - Inconclusive
AWW - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 4/5/2011 - 4/5/2011

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MID LAKE	MGENC-B	102757	AGF	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(1) Solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, mercury, (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00017

EUGENE GULCH

Headwaters - Big Bug Creek
15070102-768
3.06 Miles

Category 3
Inconclusive

Use Support

PBC - Inconclusive • AWE - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	44.7 ug/L @ 200 mg/L hardness	8/26/2013	830 ug/L	AWE is inconclusive with 1 exceedance in 3 samples.
Lead	15 ug/L	7/19/2013	142 ug/L	PBC is inconclusive with 3 exceedances in 3 samples (binomial).
		8/26/2013	83 ug/L	
		9/10/2013	48 ug/L	
pH	6.5 SU	8/26/2013	4.5 SU	AWE and PBC are inconclusive with 2 exceedances in 2 samples (binomial).
		9/10/2013	4.25 SU	

Monitoring Summary

Sampling period: 7/19/2013 - 9/10/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW PROVIDENCE MINE	MGEUG000.21	109502	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(0) None	(2) pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	pH, copper (dissolved), lead
Missing Core Parameters	pH
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	Selenium

Priority	Monitoring Recommendations
Medium	Collect more copper, lead and pH samples due to the exceedances. Collect core parameters to represent at least 3 seasons during an assessment period.

FRENCH GULCH

Headwaters - Hassayampa River
15070103-239
9.8 Miles

Category 4A
Not Attaining

Cadmium, copper, and zinc (2004)

FC - Inconclusive • FBC - Inconclusive
A&Ww - Not Attaining

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
None	None	None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All designated uses
Missing Seasonal Distribution	All designated uses
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Medium	Conduct effectiveness monitoring after TMDL strategies have been implemented.

Impairment Discussion
Remains not attaining for copper, cadmium and zinc. French Gulch TMDL completed in 2005.

ED_013248_00000483-00019

GILA RIVER

San Pedro - Mineral Creek
15050100-008
19.8 Miles

Category 5
Impaired

IMPAIRMENT STATUS

SSC (2006/8)

FC - Inconclusive • FBC - Inconclusive • AGI - Inconclusive
AGL - Inconclusive • AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
High	Collect samples to support TMDL development.

Impairment Discussion
Remains impaired for SSC (2006/8)

ED_013248_00000483-00020

GILA RIVER

Hassayampa River - Gillespie Dam
15070101-008
5.282 Miles

Category 4A
Not attaining

Selenium (2004), Boron (1992)

FC - Attaining • PBC - Attaining • AGI - Not Attaining
AGL - Attaining • AWEDW - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Boron	1000 ug/L	10/12/2011	2000 ug/L	AGI remains not attaining with 11 exceedances in 11 samples.
		12/21/2011	1800 ug/L	
		3/13/2012	2100 ug/L	
		5/31/2012	2800 ug/L	
		8/22/2012	3300 ug/L	
		10/25/2012	3400 ug/L	
		1/28/2013	2600 ug/L	
		2/26/2013	3200 ug/L	
		5/16/2013	3300 ug/L	
		1/3/2014	2800 ug/L	
		1/31/2014	3700 ug/L	
Selenium	2 ug/L	10/12/2011	10 ug/L	AWEDW remains not attaining with 11 exceedances in 11 samples.
		12/21/2011	19 ug/L	
		3/13/2012	7.9 ug/L	
		5/31/2012	8.3 ug/L	
		8/22/2012	12 ug/L	
		10/25/2012	10.45 ug/L	
		1/28/2013	15 ug/L	
		2/26/2013	11 ug/L	
		5/16/2013	8.64 ug/L	
		1/3/2014	7.31 ug/L	
		1/31/2014	7.61 ug/L	
Zinc (dissolved)	363 ug/L acute and chronic @ 380 mg/L hardness	8/22/2012	420 ug/L	AWEDW is inconclusive with 1 exceedance.

ED_013248_00000483-00021

Monitoring Summary

Sampling period: 10/12/2011 - 5/16/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE DIVERSION AT GILLESPIE DAM USGS 09518000	MGGLR167.44	100734	ADEQ	Ambient Monitoring
NEAR CENTENNIAL WASH	MGGLR170.67	109062	ADEQ	TMDL Monitoring
AT POWERS BUTTE	MGGLR174.91	109823	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(2-17) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(6-7) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(6-17) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, DDT metabolites, toxaphene

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Zinc (dissolved)
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Arsenic, arsenic (dissolved), lead (dissolved), selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Start effectiveness monitoring once TMDL strategies are implemented. Collect more dissolved zinc samples due to the exceedance.

Impairment Discussion
Remains not-attaining for boron and selenium. TMDL approved in December 2015. Pesticides in fish tissue delisted in 2014.

ED_013248_00000483-00022

GILA RIVER

Waterman Wash - Hassayampa River
15070101-010
13.863 Miles

Category 4A
Not attaining

Add selenium to the 4A list.

FC - Inconclusive • PBC - Inconclusive • AGI - Inconclusive
AGL - Inconclusive • AWEDW - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Boron	1000 ug/L	5/17/2012	4000 ug/L	AGI is inconclusive with 5 exceedances in 6 samples (binomial). A minimum of 20 samples is needed to determine impairment.
		1/28/2013	2100 ug/L	
		5/22/2013	4000 ug/L	
		1/3/2014	4150 ug/L	
		1/31/2014	4500 ug/L	
Dissolved oxygen	2.8 mg/L	8/22/2012	2.21 mg/L	AWEDW is inconclusive with 1 exceedance in 5 samples.
Mercury (dissolved)	0.01 ug/L	5/17/2012	0.84 ug/L	AWEDW is inconclusive with 1 chronic exceedance.
Selenium	2 ug/L	5/17/2012	9.4 ug/L	AWEDW is not-attaining with 5 exceedances in 6 samples.
		1/28/2013	8.3 ug/L	
		5/22/2013	4.81 ug/L	
		1/3/2014	8.44 ug/L	
		1/31/2014	5.42 ug/L	

Monitoring Summary

Sampling period: 5/17/2012 - 1/31/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT SR 85	MGGLR183.10	109042	ADEQ	TMDL Monitoring
AT ROBBINS BUTTE	MGGLR179.53	109822	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-6) Antimony, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(5) Dissolved oxygen, pH, total dissolved solids

ED_013248_00000483-00023

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Boron, dissolved oxygen, mercury (dissolved)
Missing Core Parameters	Zinc (dissolved), nitrogen, phosphorus, cadmium (dissolved), copper (dissolved), *E. coli*, manganese, copper, lead, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), nitrogen, phosphorus, cadmium (dissolved), copper (dissolved), *E. coli*, manganese, copper, lead, mercury
Lab Detection Limits Not Low Enough	Lead (dissolved), mercury (dissolved), selenium

Priority	Monitoring Recommendations
Medium	Start effectiveness monitoring once TMDL strategies are implemented. Collect more dissolved mercury and dissolved oxygen samples due to the exceedances.

Impairment Discussion
Selenium is added to the 4A list for the following reasons: - This reach is already addressed by the Middle Gila TMDLs for Boron and Selenium (ADEQ OFR 15-03), approved by EPA in December 2015, and - Load allocations may be drawn directly from the concentration-based TMDLs (the allocation for selenium is addressed by the Zone 1 allocation of the study and is set equal to the chronic AWedw selenium standard of 2 ug/L.). Pesticides in fish tissue delisted in 2014.

ED_013248_00000483-00024

HASSAYAMPA RIVER

Buckeye Canal - Gila River
15070103-001B
2.263 Miles

Category 5
Impaired

Add E. coli to the 303(d) list.
Add selenium to the 4A list.

FC - Inconclusive • FBC - Impaired • AGL - Attaining
AWW - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	2/26/2013	547.5 cfu/100 mL	FBC is impaired with 2 exceedances the last 3 years of monitoring.
		5/16/2013	613.1 cfu/100 mL	
Selenium	2 ug/L	5/17/2012	9.1 ug/L	AWW is not-attaining with 8 exceedances in 8 samples.
		8/22/2012	6.3 ug/L	
		10/25/2012	9.1 ug/L	
		1/28/2013	4.7 ug/L	
		2/26/2013	6.3 ug/L	
		5/16/2013	5.59 ug/L	
		9/16/2013	6.75 ug/L	
		4/8/2015	2.8 ug/L	
Biocriteria	IBI ≥ 50 attaining IBI 40 - 49 inconclusive IBI ≤ 39 violating	5/16/2013	IBI 24	AWW is inconclusive with 1 biocriteria violation.

Monitoring Summary

Sampling period: 5/17/2012 - 4/8/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE GILA RIVER	MGHSR000.77	101197	ADEQ	TMDL Monitoring
NEAR ARLINGTON, AZ USGS 09517000	MGHSR002.67	101496	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-9) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-9) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria, DDT metabolites, toxaphene

ED_013248_00000483-00025

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria
Missing Core Parameters	None
Missing Seasonal Distribution	Mercury
Lab Detection Limits Not Low Enough	Antimony (dissolved), arsenic, arsenic (dissolved), lead (dissolved)

Priority	Monitoring Recommendations
High	Collect more E. coli samples in support of TMDL development. Collect a follow-up macroinvertebrate sample to confirm the biocriteria result. Start effectiveness monitoring for selenium once TMDL strategies are implemented.

Impairment Discussion
Add *E. coli* to the 303(d) list. Selenium is added to the 4A list for the following reasons: - This reach is already addressed by the Middle Gila TMDLs for Boron and Selenium (ADEQ OFR 15-03), approved by EPA in December 2015, and - Load allocations may be drawn directly from the concentration-based TMDLs (the allocation for selenium is addressed by the Zone 2 allocation of the study and is set equal to the chronic AWedw selenium standard of 2 ug/L.).

ED_013248_00000483-00026

HASSAYAMPA RIVER

Cottonwood Creek - Martinez Wash
15070103-004
32.07 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Attaining • AGI - Attaining
AGL - Attaining • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Bottom deposits	< 50% fines	9/24/2012	68%	AWW is inconclusive. Impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.
		4/15/2015	59%	

Monitoring Summary

Sampling period: 9/16/2014 - 4/15/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT BLM GAGE, BOX CANYON DAM	MGHSR058.80	100463	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
High	There were two bottom deposits standard violations, but impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.

ED_013248_00000483-00027

HASSAYAMPA RIVER

Headwaters - Copper Creek
15070103-007A
11 Miles

Category 4A
Not attaining

Low pH (2006/8); Zinc, cadmium, and copper (1992)

IMPAIRMENT STATUS

FC - Attaining • FBC - Not Attaining • AGI - Not Attaining
AGL - Not Attaining • AWC - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Cadmium (dissolved)	0.282 ug/L chronic @ 122 mg/L hardness	4/21/2014	0.72 ug/L	AWC remains not-attaining with 1 chronic exceedance. All other samples had reporting limits greater than chronic criteria.
Biocriteria	IBI ≥ 52 attaining IBI 46 - 51 inconclusive IBI ≤ 45 violating	4/21/2014	IBI 23	AWC is inconclusive with 1 violation.

Monitoring Summary

Sampling period: 9/23/2013 - 4/21/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT JERSEY	MGHSR108.19	101195	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Biocriteria
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Cadmium (dissolved), selenium, mercury (dissolved)

ED_013248_00000483-00028

Priority	Monitoring Recommendations
Medium	Collect more cadmium, copper, and zinc samples to assess on the ground improvements. Use a lower reporting limit for dissolved cadmium (< 0.5 ug/L). Collect a follow-up macroinvertebrate sample to confirm the biocriteria result.

Impairment Discussion
TMDL for cadmium, copper and zinc completed and approved in 2002. There were no copper, zinc or pH exceedances in four seasonally distributed samples in this assessment period. The ground improvements seem to be improving metal concentrations and pH levels.

ED_013248_00000483-00029

HASSAYAMPA RIVER

Sols Wash - 8 miles below Wickenburg
15070103-002A
9.195 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGI - Attaining
AGL - Attaining • AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	6.0 mg/L	6/6/2012	4.5 mg/L	AWW is inconclusive with 1 exceedance in 7 samples.
E. coli	235 cfu/100 ml	9/6/2011	435 cfu/100 mL	FBC is inconclusive with 1 exceedance in the last 3 years of monitoring.
		4/15/2015	1986.3 cfu/100 mL	
Bottom deposits	< 50% fines	6/6/2012	72%	AWW is inconclusive. Impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.
		4/15/2015	59%	

Monitoring Summary

Sampling period: 9/6/2011 - 4/15/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT NATURE CONSERVANCY	MGHSR048.20	100462	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(8) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(8) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-8) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Bottom deposits, dissolved oxygen, *E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
High	Collect more *E. coli* and dissolved oxygen samples due to the exceedances. There were two bottom deposits standard violations, but impairment decisions cannot be made until the Impaired Waters Identification Rule is updated.

INDIAN BEND WASH

Headwaters - Salt River
15060106B-179
4.847 Miles

Category 3
Inconclusive

Impaired

Use Support

PBC - Inconclusive • AWE - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 8/2/2014 - 12/4/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT 40TH STREET USGS	MGIBW014.04	101520	USGS	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(0) None	(2) Dissolved oxygen, pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00031

LAKE PLEASANT

15070102-1100
8000 Acres

Category 5
Impaired

Mercury in fish tissue (EPA 2006/8)

IMPAIRMENT STATUS

DWS - Inconclusive • FC - Impaired • FBC - Inconclusive
AGI - Inconclusive • AGL - Inconclusive • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Mercury in fish tissue	0.3 mg/kg	10/1/2014	0.33 mg/kg (mean - 1SD) striped bass	FC remains impaired.

Monitoring Summary

Sampling period: 3/14/2012 - 10/29/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MID LAKE	MGPLE-B	100068	ADEQ	Ambient Monitoring
MARINA	MGPLE-MAR	101000	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3-6) Arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(6) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(3-6) Dissolved oxygen, pH, total dissolved solids, fluoride, fish tissue mercury

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	*E. coli*
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, nitrite/nitrate, fluoride, arsenic, chromium, lead, boron, manganese, copper
Lab Detection Limits Not Low Enough	Cadmium (dissolved), mercury (dissolved), selenium

ED_013248_00000483-00032

Priority	Monitoring Recommendations
High	Collect more samples in support of TMDL development.

Impairment Discussion
Remains impaired for mercury in fish tissue (EPA 2006/8). Fish consumption advisory issued in 2009 and still in effect.

ED_013248_00000483-00033

LITTLE ASH CREEK (LAS)

Headwaters - Ash Creek
15070102-039
17.676 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGL - Attaining
AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	9/1/2011	291 cfu/100 mL	FBC is inconclusive with 1 exceedance outside the assessment window (last 3 years of monitoring).

Monitoring Summary

Sampling period: 9/1/2011 - 3/18/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR ESTLER PEAK	MGLAS004.52	100578	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(5) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(5) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-5) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	Dissolved oxygen
Lab Detection Limits Not Low Enough	Mercury (dissolved)

Priority	Monitoring Recommendations
Low	Collect *E. coli* samples due to the exceedance. Collect missing core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00034

LITTLE SYCAMORE CREEK

Headwaters - Sycamore Creek
15070102-615
8.419 Miles

Category 2
Attaining some uses

Use Support

FC - Attaining • FBC - Inconclusive • AWW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	4/25/2013	579.4 cfu/100 mL	FBC is inconclusive with 1 exceedance in 4 samples.
Bottom deposits	IBI ≥ 50 attaining IBI 40 - 49 inconclusive IBI ≤ 39 violating	4/25/2013	IBI 48	AWW is inconclusive.

Monitoring Summary

Sampling period: 7/23/2012 - 4/25/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT FOREST SERVICE BOUNARY	MGLSY000.42	106742	ADEQ	Ambient Monitoring
ABOVE CLAYS WELL CANYON	MGLSY000.91	109522	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4-5) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(5) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-5) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Selenium, mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more *E. coli* samples due to the exceedance. Collect a follow-up macroinvertebrate sample to confirm the bioassessment result.

ED_013248_00000483-00035

LYNX LAKE

15070102-0860
49 Acres

Category 3
Inconclusive

DWS - Inconclusive • FC - Inconclusive • FBC - Inconclusive
AGI - Inconclusive • AGL - Inconclusive
AWC - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Arsenic	10 ug/L	10/1/2014	12.2 ug/L	DWS is inconclusive with 1 exceedance in 3 samples (binomial).
Manga-nese	980 ug/L	10/1/2014	5460 ug/L	DWS is inconclusive with 3 exceedances in 3 samples (binomial).
		4/14/2015	1130 ug/L	
		6/17/2015	1200 ug/L	

Monitoring Summary

Sampling period: 6/29/2011 - 6/17/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT DAM	MGLYN-A	100037	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(3) Arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(3-4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Arsenic, manganese
Missing Core Parameters	Zinc (dissolved), *E. coli*
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, nitrite/nitrate, fluoride, arsenic, chromium, lead, boron, manganese, copper, mercury
Lab Detection Limits Not Low Enough	Cadmium (dissolved)

Priority	Monitoring Recommendations
Low	Collect more arsenic and manganese samples due to exceedances. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00036

MINERAL CREEK (MIN)

Devil's Canyon - Gila River
15050100-012B
19.609 Miles

Category 5
Impaired

Dissolved copper (1992), selenium (2004) and dissolved oxygen (2006/8)

FC - Inconclusive • FBC - Inconclusive • AGL - Inconclusive
AWW - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	24.8 ug/L chronic @ 330 mg/L hardness	7/14/2010	110 ug/L	AWW remains impaired with 8 acute exceedances and 27 chronic exceedances.
	16.2 ug/L chronic @ 200 mg/L hardness	8/12/2010	79 ug/L	
	23.5 ug/L chronic @ 310 mg/L hardness	9/16/2010	80 ug/L	
	24.2 ug/L chronic @ 320 mg/L hardness	10/12/2010	68 ug/L	
	24.8 ug/L chronic @ 330 mg/L hardness	11/15/2010	56 ug/L	
	23.5 ug/L chronic @ 310 mg/L hardness	12/15/2010	38 ug/L	
	16.9 ug/L chronic @ 210 mg/L hardness	1/13/2011	28 ug/L	
	18.9 ug/L chronic @ 240 mg/L hardness	2/17/2011	19 ug/L	
	29.3 ug/L chronic @ 400 mg/L hardness	10/18/2011	42 ug/L	
	29.3 ug/L chronic @ 400 mg/L hardness	11/17/2011	76 ug/L	
	8.3 ug/L chronic @ 91 mg/L hardness	12/22/2011	42 ug/L	
	11.9 ug/L chronic @ 140 mg/L hardness	1/25/2012	69 ug/L	
	17.6 ug/L chronic @ 220 mg/L hardness	2/15/2012	93 ug/L	
	20.3 ug/L chronic @ 260 mg/L hardness	3/14/2012	110 ug/L	
	17.6 ug/L chronic @ 220 mg/L hardness	4/27/2012	110 ug/L	
	29.3 ug/L chronic @ 400 mg/L hardness	5/24/2012	69 ug/L	
	29.3 ug/L chronic @ 400 mg/L hardness	8/22/2012	32 ug/L	
	29.3 ug/L chronic @ 400 mg/L hardness	9/26/2012	33 ug/L	
	49.6 ug/L acute, 29.3 ug/L chronic @ 400 mg/L hardness	11/21/2012	69 ug/L	
	16.0 ug/L acute, 10.5 ug/L chronic @ 120 mg/L hardness	12/26/2012	45 ug/L	
	27.0 ug/L acute, 16.9 ug/L chronic @ 210 ug/L hardness	1/23/2013	60 ug/L	
	24.6 ug/L acute, 15.5 ug/L chronic @ 190 mg/L hardness	2/20/2013	68 ug/L	

ED_013248_00000483-00037

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved) (Continued)	14.7 ug/L acute, 9.7 ug/L chronic @ 110 mg/L hardness	3/20/2013	34 ug/L	
	27.0 ug/L acute, 16.9 ug/L chronic @ 210 ug/L hardness	4/17/2013	53 ug/L	
	34.3 ug/L acute, 20.9 ug/L chronic @ 270 ug/L hardness	5/15/2013	63 ug/L	
	19.6 ug/L chronic @ 250 mg/L hardness	1/22/2014	31 ug/L	
	28.2 ug/L acute, 17.6 ug/L chronic @ 220 ug/L hardness	3/26/2014	65 ug/L	
Selenium	2 ug/L	5/17/2011	2.8 ug/L	AWW remains impaired with 18 exceedances in 34 samples.
		6/6/2011	6.2 ug/L	
		7/7/2011	8.8 ug/L	
		9/13/2011	11 ug/L	
		10/18/2011	12 ug/L	
		11/17/2011	10 ug/L	
		5/24/2012	4.3 ug/L	
		6/27/2012	8.3 ug/L	
		7/18/2012	8.6 ug/L	
		8/22/2012	9.3 ug/L	
		9/26/2012	9.6 ug/L	
		10/24/2012	11 ug/L	
		5/15/2013	2.1 ug/L	
		7/17/2013	7.8 ug/L	
		8/21/2013	9.3 ug/L	
		9/25/2013	2.6 ug/L	
		10/23/2013	2.1 ug/L	
		11/20/2013	8.3 ug/L	

Monitoring Summary

Sampling period: 7/14/2010 - 3/28/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT INDIAN GARDENS	MGMIN008.81	103331	ASARC	Data Sharing Partnership
AT HIGHWAY 177 BRIDGE NORTH OF KELVIN, AZ	MGMIN001.38	100472	ASARC	Data Sharing Partnership
TUNNEL OUTLET	MGMIN003.69	103333	ASARC	Data Sharing Partnership
CHANNLE OUTLET	MGMIN002.65	103334	ASARC	Data Sharing Partnership

ED_013248_00000483-00038

Metal Samples	Nutrients & Related Samples	Other Samples
(106-110) Copper, lead, selenium, zinc	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Dissolved oxygen, pH, cadmium (dissolved), *E. coli*, mercury, (or mercury in fish tissue)
Missing Seasonal Distribution	Dissolved oxygen, pH, cadmium (dissolved), *E. coli*, mercury
Lab Detection Limits Not Low Enough	Copper (dissolved), lead, lead (dissolved), selenium

Priority	Monitoring Recommendations
High	Collect additional samples in support of TMDL development. Use a lower detection limit for selenium. Collect core parameters to represent at least 3 seasons during an assessment period.

Impairment Discussion
Remains impaired for dissolved copper (1992), selenium (2004) and dissolved oxygen (2006/8).

ED_013248_00000483-00039

MINERAL CREEK (MNR)

Headwaters - Cedar Canyon Creek
15070102-823
3.984 Miles

Category 3
Inconclusive

Use Support

PBC - Inconclusive • AWE - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 7/10/2011 - 7/10/2011

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT MOUTH	MGMNR000.21	102520	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Copper, lead	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00040

MONEY METALS TRIB

Headwaters - Unnamed Tributary (UB1)
15070102-123
0.543 Miles

Category 5
Impaired

Add copper and zinc to the 303(d) list.

PBC - Inconclusive • AWE - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Cadmium (dissolved)	59.8 ug/L @ 270 mg/L hardness	7/18/2013	150 ug/L	AWE is inconclusive with 1 exceedance in 4 samples.
Copper (dissolved)	59.3 ug/L @ 270 mg/L hardness	7/18/2013	830 ug/L	AWE is impaired with 4 exceedances in 5 samples.
	53.1 ug/L @ 240 mg/L hardness	8/26/2013	830 ug/L	
	15.7 ug/L @ 66 mg/L hardness	9/13/2013	140 ug/L	
	13.5 ug/L @ 56 mg/L hardness	3/3/2014	140 ug/L	
Lead	15 ug/L	7/18/2013	20 ug/L	PBC is inconclusive with 4 exceedances in 5 samples (binomial).
		8/26/2013	23 ug/L	
		3/3/2014	23 ug/L	
		8/12/2014	5790 ug/L	
pH	6.5 SU	8/26/2013	5.72 SU	AWE and PBC are inconclusive with 1 exceedance in 4 samples.
Zinc (dissolved)	2580 ug/L @ 270 mg/L hardness	7/18/2013	18000 ug/L	AWE is impaired with 4 exceedances in 5 samples.
	2335 ug/L @ 240 mg/L hardness	8/26/2013	14000 ug/L	
	782 ug/L @ 66 mg/L hardness	9/13/2013	3300 ug/L	
	680 ug/L @ 56 mg/L hardness	3/3/2014	2200 ug/L	

Monitoring Summary

Sampling period: 7/18/2013 - 8/12/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NEAR SNOWDRIFT MINE	MGNMT000.14	109802	ADEQ	TMDL Monitoring
ABOVE BIG BUG MESA ROAD	MGNMT000.32	109882	ADEQ	TMDL Monitoring

ED_013248_00000483-00041

Metal Samples	Nutrients & Related Samples	Other Samples
(5-6) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(0) None	(4-5) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	pH, cadmium (dissolved), lead
Missing Core Parameters	None
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	Copper (dissolved), selenium

Priority	Monitoring Recommendations
High	Collect more samples in support of TMDL development.

Impairment Discussion
Add copper and zinc to the 303(d) list.

ED_013248_00000483-00042

PEACHVILLE WASH

Headwaters - Fortuna Wash
15050100-1846
2.09 Miles

Category 3
Inconclusive

PBC - Inconclusive • AGL - Inconclusive • AWE - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 7/29/2010 - 7/29/2010

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT BEDROCK OUTCROP	MGPEW000.79	108342	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Copper, lead	(0) None	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved), copper, lead
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved), copper, lead
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period. PBC was inconclusive with 2 lead exceedances in the 2012/14 assessment.

ED_013248_00000483-00043

PECK CANYON

Headwaters - Bear Creek
15070102-858
7.04 Miles

Category 3
Inconclusive

Use Support

PBC - Inconclusive • AWE - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 10/7/2010 - 10/7/2010

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
DOWNSTREAM OF PECK MINE	MGPEC000.38	105396	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Copper, lead	(0) None	(0) None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00044

QUEEN CREEK

Headwaters - Superior Mining Div. outfall
15050100-014A
8.761 Miles

Category 5
Impaired

Copper (2002), lead (2010) and selenium (2012)

PBC - Impaired • AGL - Attaining • AWW - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper	500 ug/L	7/15/2014	680 ug/L	AGL is attaining with 1 exceedance in 13 samples.
Copper (dissolved)	14.7 ug/L chronic @ 179 mg/L hardness	11/1/2010	15.9 ug/L	AWW remains impaired with 10 chronic and 4 acute exceedances.
	10.8 ug/L chronic @ 125 mg/L hardness	8/19/2011	50.8 ug/L	
	11.5 ug/L chronic @ 134 mg/L hardness	11/28/2011	28.6 ug/L	
	5.7 ug/L chronic @ 59 mg/L hardness	12/14/2011	25.7 ug/L	
	9.8 ug/L chronic @ 111 mg/L hardness	5/2/2012	9.8 ug/L	
	16.2 ug/L acute, 10.6 ug/L chronic @ 122 mg/L hardness	12/17/2012	20.1 ug/L	
	10.5 ug/L acute, 7.1 ug/L chronic @ 77 mg/L hardness	1/29/2013	22.6 ug/L	
	11.1 ug/L chronic @ 129 mg/L hardness	3/13/2013	12.6 ug/L	
	49.6 ug/L acute, 29.3 ug/L chronic @ 400 mg/L hardness	7/15/2014	61 ug/L	
	12.2 ug/L acute, 8.2 ug/L chronic @ 90 mg/L hardness	10/9/2014	39 ug/L	
Lead	100 ug/L (AGL), 15 ug/L (PBC)	7/15/2014	360 ug/L	AGL is attaining with 1 exceedance in 13 samples (binomial). PBC remains impaired with 3 exceedances in 13 samples (binomial).
		8/19/2011	21.5 ug/L	
		10/9/2014	25 ug/L	
Mercury (dissolved)	0.01 ug/L	10/9/2014	0.05 ug/L	AWW is inconclusive with 1 exceedance in 1 sample.

ED_013248_00000483-00045

Monitoring Summary

Sampling period: 11/1/2010 - 10/9/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MAGMA AVE & QUEEN CREEK	MGQEN038.73	103095	RESCU	Data Sharing Partnership
ABOVE MINE DIS-CHARGE	MGQEN037.47	103461	RESCU	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(12-13) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, zinc	(1) Nitrate, nitrite, nitrite/nitrate	(3) pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Mercury (dissolved), lead
Missing Core Parameters	Dissolved oxygen, *E. coli*
Missing Seasonal Distribution	Dissolved oxygen, *E. coli*
Lab Detection Limits Not Low Enough	Mercury (dissolved), selenium

Priority	Monitoring Recommendations
High	Collect additional samples in support of TMDL development. Collect more selenium samples during critical conditions. Collect missing core parameters to represent at least 3 seasons during an assessment period.

Impairment Discussion
Remains impaired for copper (2002), lead (2010) and selenium (2012). There were no exceedances of selenium in 13 samples, of which only one sample had a detection limit issue. No information was available as to whether all selenium data were collected during critical conditions.

ED_013248_00000483-00046

QUEEN CREEK

Superior Mining WWTP - Potts Canyon
15050100-014B
5.9 Miles

Category 5
Impaired

IMPAIRMENT STATUS

Copper (2002)

PBC - Inconclusive • AWW - Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
None	None	None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Collect samples in support of TMDL development.

Impairment Discussion
Remains impaired for copper (2002). This reach is included with Queen Creek Copper TMDL project.

ED_013248_00000483-00047

QUEEN CREEK

Potts Canyon - Whitlow Canyon
15050100-014C
8.0 Miles

Category 5
Impaired

IMPAIRMENT STATUS

Copper (2010)

FC - Inconclusive • FBC - Inconclusive • AGL - Inconclusive
AWW- Impaired

Monitoring Summary

Sampling period: No samples

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
N/A				

Metal Samples	Nutrients & Related Samples	Other Samples
None	None	None

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	N/A

Priority	Monitoring Recommendations
Medium	Collect more samples in support of TMDL development.

Impairment Discussion
Remains impaired for dissolved copper (2010). This reach is included with Queen Creek Copper TMDL project.

ED_013248_00000483-00048

SALT RIVER

23rd Avenue WWTP outfall - Gila River
15060106B-001D
11.359 Miles

Category 2
Attaining some uses

FC - Inconclusive • PBC - Inconclusive • AGI - Attaining
AGL - Attaining • AWEDW - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Selenium	2 ug/L	2/27/2013	3.8 ug/L	AWEDW is inconclusive with 1 exceedance in 3 samples.

Monitoring Summary

Sampling period: 5/14/2012 - 5/22/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT 91ST AVENUE WWTP DISCHARGE USGS 09512407	MGSLR003.96	100768	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1-3) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, zinc	(1) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-3) Dissolved oxygen, *E. coli*, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Selenium
Missing Core Parameters	*E. coli*, mercury (or mercury in fish tissue)
Missing Seasonal Distribution	*E. coli*, mercury
Lab Detection Limits Not Low Enough	Arsenic, arsenic (dissolved), lead (dissolved), mercury (dissolved), DDT metabolites, toxaphene

Priority	Monitoring Recommendations
Medium	Collect more selenium samples due to the exceedance. Collect core parameters to represent at least 3 seasons during an assessment period. Pesticides in fish tissue delisted in 2014.

ED_013248_00000483-00049

SALT RIVER

33 26'4.257"/111 54'33.886" - 33 25'58.366"/111 56'55.923"
15060106B-003C
2.53 Miles

Category 3
Inconclusive

FC - Inconclusive • FBC - Inconclusive • AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Dissolved oxygen	6.0 mg/L	9/9/2013	5.3 mg/L	AWW is attaining with 1 exceedance in 104 samples (binomial).
E. coli	235 cfu/100 mL	7/16/2012	3630 cfu/100 mL	FBC is inconclusive. There was only one non-storm related exceedance based on NOAA precipitation data, and the exceedance rate over the entire assessment period was less than 10%.
		12/17/2012	326 cfu/100 mL	
		1/28/2013	579 cfu/100 mL	
		5/13/2013	238 cfu/100 mL	
		7/22/2013	238 cfu/100 mL	
		11/25/2013	816 cfu/100 mL	
pH	9.0 SU	2/27/2012	9.3 SU	AWW and FBC are attaining with 8 exceedances in 104 samples (binomial).
		3/5/2012	9.4 SU	
		3/12/2012	9.5 SU	
		3/26/2012	9.3 SU	
		4/16/2012	9.8 SU	
		4/23/2012	9.4 SU	
		4/15/2013	9.5 SU	
		4/29/2013	9.3 SU	

Monitoring Summary

Sampling period: 1/3/2012 - 12/30/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE TEMPE TOWN LAKE	MGSLR025.38	110342	TEMPE	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(0) None	(24) Ammonia, nitrite/nitrate, nitrogen, total Kjeldahl nitrogen	(104) Dissolved oxygen, *E. coli*, pH

ED_013248_00000483-00050

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*
Missing Core Parameters	Zinc (dissolved), cadmium (dissolved), copper (dissolved), mercury (or mercury in fish tissue)
Missing Seasonal Distribution	Zinc (dissolved), cadmium (dissolved), copper (dissolved), mercury
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period. Keep monitoring for *E. coli* due to exceedances.

ED_013248_00000483-00051

SEVEN SPRINGS WASH

Headwaters - Unnamed Trib @ 33 57'58.66"/111 51'52.07"
15060106B-412
5.17 Miles

Category 1
Attaining all uses

Use Support

FC - Attaining • FBC - Attaining • AWW - Attaining

No Exceedances

Monitoring Summary

Sampling period: 10/11/2012 - 4/22/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
UPSTREAM OF FS ROAD 24	MGSSW000.38	109242	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(5-6) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(6) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-6) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Mercury (dissolved)

Priority	Monitoring Recommendations
Low	Good core parameter coverage.

ED_013248_00000483-00052

SKUNK CREEK

Headwaters - Agua Fria River
15070102-003
30.422 Miles

Category 3
Inconclusive

Working Draft

PBC - Inconclusive • AWE - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	9.6 ug/L acute @ 39 mg/L hardness	12/22/2010	20 ug/L	AWE is inconclusive. No dissolved copper data in the last 3 years of assessment.
	28 ug/L acute @ 120 mg/L hardness	7/11/2011	40 ug/L	

Monitoring Summary

Sampling period: 12/22/2010 - 12/4/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT 79TH AVENUE, NORTH BANK USGS	MGSKU001.43	101521	USGS	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(1-2) Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-4) Dissolved oxygen, pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper (dissolved)
Missing Core Parameters	Zinc (dissolved), cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	Copper (dissolved), silver (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more dissolved copper samples due to the exceedances. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00053

SYCAMORE CREEK (SYD)

Tank Canyon - Agua Fria River
15070102-024B
17.6 Miles

Category 2
Attaining some uses

FC - Attaining • FBC - Inconclusive • AGL - Attaining
AWW - Attaining

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	9/1/2011	980 cfu/100 mL	FBC is inconclusive with 2 exceedances outside the assessment window (last 3 years of monitoring).
		6/12/2012	727 cfu/100 mL	

Monitoring Summary

Sampling period: 9/1/2011 - 6/12/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE SYCAMORE RANGER STATION	MGSYD009.13	100704	ADEQ	Ambient Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(4) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(4) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(1-4) Dissolved oxygen, *E. coli*, pH, SSC, total dissolved solids, bottom deposits, biocriteria

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*
Missing Core Parameters	None
Missing Seasonal Distribution	None
Lab Detection Limits Not Low Enough	Mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more *E. coli* samples due to the exceedances.

ED_013248_00000483-00054

TEMPE TOWN LAKE

15060106B-1588
220 Acres

Category 3
Inconclusive

Working Draft

FC - Inconclusive • FBC - Inconclusive • AWW - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
E. coli	235 cfu/100 mL	1/28/2013	387 cfu/100 mL	FBC is inconclusive. All exceedances are storm related, and the exceedance rate over the entire assessment period was less than 10%.
		7/22/2013	3630 cfu/100 mL	
		11/25/2013	291 cfu/100 mL	
pH	9.0 SU	1/18/2011	9.3 SU	AWW and FBC are inconclusive. Although the lake would have been impaired with 26 exceedances in 170 samples (binomial), it remains inconclusive as the lake was completely drained in March, 2016. Note: The lake was drained for replacement of the dam at the west end and is scheduled to be refilled by the end of April, 2016.
		2/14/2011	9.3 SU	
		2/22/2011	9.5 SU	
		2/28/2011	9.4 SU	
		3/7/2011	9.6 SU	
		3/14/2011	9.5 SU	
		3/21/2011	9.6 SU	
		4/4/2011	9.6 SU	
		4/11/2011	9.7 SU	
		4/18/2011	9.6 SU	
		4/25/2011	9.5 SU	
		5/2/2011	9.3 SU	
		12/12/2011	9.3 SU	
		1/3/2012	9.3 SU	
		1/16/2012	9.3 SU	
		1/23/2012	9.3 SU	
		2/6/2012	9.4 SU	
		2/13/2012	9.3 SU	
		2/21/2012	9.5 SU	
		2/27/2012	9.7 SU	
		3/5/2012	9.5 SU	
		3/12/2012	9.5 SU	

ED_013248_00000483-00055

Parameter	Applicable Standard	Date	Result	Designated use support comments
pH (Continued)	9.0 SU	3/26/2012	9.5 SU	
		4/9/2012	9.3 SU	
		4/23/2012	9.3 SU	
		4/30/2012	9.3 SU	

Monitoring Summary

Sampling period: 7/6/2010 - 12/30/2013

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
MID LAKE SITE	MGTTL-MID	102452	TEMPE	Data Sharing Partnership
DSD	MGTTL-A	101316	TEMPE	Data Sharing Partnership
USD	MGTTL-B	101315	TEMPE	Data Sharing Partnership

Metal Samples	Nutrients & Related Samples	Other Samples
(31-40) Antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, zinc	(38-40) Ammonia, nitrite, nitrite/nitrate, nitrogen, total Kjeldahl nitrogen	(40-510) *E. coli*, pH, solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	*E. coli*, pH
Missing Core Parameters	All core parameters
Missing Seasonal Distribution	All core parameters
Lab Detection Limits Not Low Enough	Lead, selenium

Priority	Monitoring Recommendations
Medium	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00056

TURKEY CREEK

Tributary at 341928 / 1122128 - Poland Creek
15070102-036B
21 Miles

Category 4A
Not attaining

IMPAIRMENT STATUS

Copper and lead (1992)

FC - Inconclusive • FBC - Not Attaining • AGI - Inconclusive
AGL - Inconclusive • AWW - Not Attaining

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Ammonia	0.54 mg/L chronic @ pH 8.34 & Temp 29.7 C	7/17/2012	1.97 mg/L	AWW is inconclusive with 1 exceedance.
Arsenic	30 ug/L	3/2/2015	36 ug/L	FBC is inconclusive with 1 exceedance in 3 samples.
Lead	15 ug/L	7/17/2012	33 ug/L	FBC remains not attaining with 3 exceedances in 3 samples.
		8/20/2014	48.9 ug/L	
		3/2/2015 1	67.3 ug/L	

Monitoring Summary

Sampling period: 3/2/2011 - 3/2/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
NORTH OF CLEATOR AT FOREST ROAD 93 CROSSING	MGTRK007.28	101083	ADEQ	TMDL Monitoring
ON CROWN KING ROAD AT BRIDGE	MGTRK004.42	101627	ADEQ	TMDL Monitoring
DOWNSTREAM OF TRIBUTARY AND OF MINES	MGTRK004.33	102518	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(2-6) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(2) Ammonia, nitrite/nitrate, nitrogen, phosphorus, total Kjeldahl nitrogen	(2-8) Dissolved oxygen, *E. coli*, pH, total dissolved solids

ED_013248_00000483-00057

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Arsenic, Ammonia
Missing Core Parameters	*E. coli*, mercury
Missing Seasonal Distribution	Zinc (dissolved), dissolved oxygen, pH, cadmium (dissolved), copper (dissolved), *E. coli*, boron, manganese, copper, lead, mercury
Lab Detection Limits Not Low Enough	Mercury (dissolved)

Priority	Monitoring Recommendations
Medium	Collect more lead and copper samples to determine the effectiveness of TMDL implementation strategies. Collect more ammonia and arsenic samples due to exceedances.

Impairment Discussion
Remains not attaining - need more data. Copper and lead TMDL completed in 2006.

ED_013248_00000483-00058

Unnamed Trib To Dry Mineral Cr

Headwaters - Dry Mineral Creek
15050100-212
1.4 Miles

Category 3
Inconclusive

Working Draft

Use Support

PBC - Inconclusive • AWE - Inconclusive

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper (dissolved)	85.9 ug/L at 400 mg/L hardness	3/12/2015	847 ug/L	AWE is inconclusive with 1 exceedance in 1 sample.

Monitoring Summary

Sampling period: 3/12/2015 - 3/12/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW ADITS	MGUDR001.12	110528	ADEQ	TMDL Monitoring
BELOW UPPER PAS-QUATE DUMPS	MGUDR001.41	106785	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(2) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(0) None	(2) pH

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Copper (dissolved)
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Medium	Collect more dissolved copper samples due to the exceedance. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00059

Unnamed Trib To Eugene Gulch

Headwaters - Eugene Gulch
15070102-1994
0.71 Miles

Category 5
Impaired

IMPAIRMENT

Add copper to the 303(d) list.

STATUS

PBC - Inconclusive • AWE - Impaired

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Copper	1300 ug/L	7/15/2014	2926 ug/L	PBC is inconclusive with 2 exceedances in 5 samples (binomial).
		8/11/2014	3090 ug/L	
Copper (dissolved)	44.7 ug/L @ 200 mg/L hardness	8/30/2013	360 ug/L	AWE is impaired with 5 exceedances in 5 samples.
	18.6 ug/L @ 79 mg/L hardness	9/4/2013	370 ug/L	
	60.3 ug/L @275 mg/L hardness	11/22/2013	290 ug/L	
	28.3 ug/L @ 123 mg/L hardness	7/15/2014	374 ug/L	
	23.1 ug/L @ 99 mg/L hardness	8/11/2014	244 ug/L	
Lead	15 ug/L	7/15/2014	51 ug/L	PBC is inconclusive with 2 exceedances in 5 samples (binomial).
		8/11/2014	52 ug/L	

Monitoring Summary

Sampling period: 8/30/2013 - 8/11/2014

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
BELOW EUGENE MINE	MGUEU000.03	109442	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(2-5) Antimony, arsenic, beryllium, boron, cadmium, chromium, copper, lead, manganese, mercury, selenium, zinc	(0) None	(1-3) Dissolved oxygen, pH, total dissolved solids

ED_013248_00000483-00060

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Lead
Missing Core Parameters	None
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
High	Collect more samples in support of TMDL development.

Impairment Discussion
Add copper to the 303(d) list.

ED_013248_00000483-00061

Unnamed Trib To Turkey Creek

Headwaters - Turkey Creek
15070102-910
1.3 Miles

Category 3
Inconclusive

Use Support

PBC - Inconclusive • AWE - Inconclusive

No Exceedances

Monitoring Summary

Sampling period: 1/30/2015 - 1/30/2015

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
ABOVE MINES	MGUTR000.22	104498	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Arsenic, cadmium, copper, lead, zinc	(0) None	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	None
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00062

WATERMAN WASH

West Prong Waterman Wash - Gila River
15070101-011
16.547 Miles

Category 3
Inconclusive

PBC - Inconclusive • AWE - Inconclusive

Use Support

Exceedances

Parameter	Applicable Standard	Date	Result	Designated use support comments
Lead	15 ug/L	8/23/2012	24 ug/L	PBC is inconclusive with 1 exceedance in 1 sample.

Monitoring Summary

Sampling period: 8/23/2012 - 8/23/2012

Site Name(s)	Site ID #	DEQ #	Sampling Agency	Purpose
AT NARRAMORE ROAD AND 214TH AVENUE	MGWTW002.26	109183	ADEQ	TMDL Monitoring

Metal Samples	Nutrients & Related Samples	Other Samples
(1) Boron, copper, lead, manganese, selenium	(0) None	(1) Dissolved oxygen, pH, total dissolved solids

Data Gaps and Monitoring Needs

Exceedances Needing More Samples to Assess	Lead
Missing Core Parameters	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Missing Seasonal Distribution	Zinc (dissolved), pH, cadmium (dissolved), copper (dissolved)
Lab Detection Limits Not Low Enough	None

Priority	Monitoring Recommendations
Low	Collect more lead samples due to the exceedance. Collect core parameters to represent at least 3 seasons during an assessment period.

ED_013248_00000483-00063